FEDERAL RANGELAND GRASSHOPPER & MORMON CRICKET SUPPRESSION PROGRAM -- IDAHO 2005

SUMMARY OF GRASSHOPPER SURVEY RESULTS

Most areas of southern Idaho did not experience major grasshopper outbreaks in 2005. Small infestations were detected in Treasure Valley, Magic Valley, and in southeast Idaho. However, surveys in western and northern Idaho found extremely heavy infestations in Gem, Payette, Washington, Adams, Valley, Clearwater, Nez Perce, Idaho, and Lewis Counties. The populations in western Idaho are very troubling because the history of major grasshopper outbreaks in Idaho indicates that they begin in the west and spread eastward over the course of a few seasons. Species composition in outbreak areas consisted primarily of *Melanoplus sanguinipes, Melanoplus femur-rubrum,* and *Camnula pellucida. Melanoplus bivittatus, Aulocara elliotti* and *Oedaleontus enigma* were abundant in localized areas. Exceptionally heavy rainfall in May did not seem to have any detrimental effect on populations. The late summer and fall season should have allowed exceptional oviposition opportunities, and there are currently no factors that would indicate any reason to expect major decreases in overall grasshopper populations in 2006. It is reasonable to expect that significant grasshopper outbreaks might occur in 2006.

SIGNIFICANT 2005 RANGELAND GRASSHOPPER SURVEY RESULTS

County **Acres infested at more than 8 grasshoppers per sq. yd**

	BLM	NATIONAL FOREST	STATE LAND	PRIVATE LAND	TOTAL	VERSUS 2004
Ada	9,000		1,000	10,000	20,000	Same
Adams	10,000	2,000	1,000	10,000	23,000	Much more
Bannock		500		500	1,000	More
Benewah				1,500	1,500	More
Blaine	200			800	1,000	Less
Boise	1,000	2,000	1,000	8,000	12,000	More
Bonneville	500			500	1,000	More
Canyon	1,000			3,000	4,000	More
Cassia	3,500			2,500	6,000	Same
Clearwater			25,000	40,000	65,000	Much more
Elmore	5,000	1,000	1,000	7,500	14,500	Same
Franklin	1,600			800	2,400	Much more
Fremont				500	500	More
Gem	10,000		1,000	80,000	91,000	Less
Gooding	1,000			1,000	2,000	More
Idaho	4,000	6,000	2,000	100,000	112,000	Much more
Jerome	2,000			2,000	4,000	Much more
Kootenai				2,500	2,500	More
Latah				80,000	80,000	Much more
Lewis				30,000	30,000	Much more
Lincoln	500			500	1,000	Much less
Minidoka	1,200				1,200	Less
Nez Perce				60,000	60,000	Much more
Oneida	1,000	600		2,000	3,600	Much more
Owyhee	15,000		1,000	1,000	17,000	Same
Payette	25,000		2,000	20,000	47,000	Less
Teton	500				500	More
Valley				20,000	20,000	More
Washington	25,000	5,000	2,000	50,000	82,000	Less
TOTAL	**117,000**	**17,100**	**37,000**	**534,600**	**705,700**	**Much more**

SUMMARY OF MORMON CRICKET SURVEY RESULTS

In southwestern Idaho, the Mormon cricket outbreak which has been building in Owyhee County continued in 2005. We anticipate this large infestation may have reached its peak, and treatments have reduced local elements of the outbreak. The infestation extended eastward about 40 miles from the Oregon border and southward about 70 miles from the Snake River.

There is also an infestation of Mormon crickets in Gooding, Camas, Elmore, Ada, Boise, Gem, and Washington Counties. Control activities over the past few years seem to have diminished populations in some areas, but the overall outbreak stretches about 125 miles from north of Gooding to the Snake River west of Cambridge. Populations appear to be increasing in the western part of the outbreak.

In Eastern Idaho the infestation is continuing to build in Oneida, Power and Bannock Counties. This infestation extends about 25 miles from the Utah state line to areas around McCammon and Rockland. A small infestation was detected in Fremont County.

SIGNIFICANT 2005 MORMON CRICKET SURVEY RESULTS

County **Acres infested with Mormon crickets**

	BLM	NATIONAL FOREST	STATE LAND	PRIVATE LAND	TOTAL	VERSUS 2004
Ada	5,000	1,000	3,000	15,000	24,000	Much Less
Adams		8,000	8,000	2,000	18,000	More
Bannock	500			500	1,000	Less
Boise	1,000	20,000	10,000	15,000	46,000	Much Less
Camas	1,000			1,000	2,000	Less
Elmore	15,000	5,000	3,000	20,000	43,000	Much Less
Fremont				100	100	More
Gem	4,000		1,000	5,000	10,000	Less
Gooding	10,000		1,000	1,000	12,000	Much less
Oneida	40,000	4,000	4,000	25,000	73,000	Much more
Owyhee	250,000		15,000	25,000	290,000	Much less
Power	6,000			6,000	12,000	Much more
Valley		2,000			2,000	Same
Washington	35,000	60,000	25,000	80,000	200,000	Same
TOTAL	**367,500**	**100,000**	**70,000**	**195,600**	**733,100**	**Much less**

SUMMARY OF COMPLAINTS AND TREATMENTS

Because of large Mormon cricket outbreaks in 2004 and previous years, the Idaho State Senate and House Agriculture Committees both held hearings on the grasshopper/Mormon cricket program. Committee members expressed concern about the need for suppression programs. Members of the public in Owyhee and Oneida Counties voiced general complaints about Mormon crickets throughout the spring and summer. There were also many complaints about grasshoppers from western and northern Idaho. U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (PPQ) received a total of 162 official complaints about grasshoppers and Mormon crickets. PPQ conducted six treatment projects on federal land in response to these complaints (some individual projects were in response to more than one complaint). All these treatments were on rangelands managed by Bureau of Land Management or National Forest Lands and consisted of application of 10 lbs/acre of 5% carbaryl bait or 0.75 oz/acre of diflubenzuron spray. The bait was distributed by ground along roads and trails through infested rangeland in Elmore, Owyhee, Camas, Gooding, Washington, Oneida, Power and Bannock Counties. Bait was applied by air on infested rangelands in Washington, Owyhee, Gooding, and Camas Counties. Diflubenzuron was applied by air in Owyhee and Gem Counties. PPQ treated a total of 20,640 acres with carbaryl 5% bait and 50,274 acres with diflubenzuron in Idaho in 2005.

Acres of Federally Managed Land Treated for
Mormon Crickets by County in Idaho in 2005

Owyhee	62,515	(carbaryl bait and diflubenzuron spray)
Elmore	395	(carbaryl bait)
Washington	2,540	(carbaryl bait)
Oneida, Bannock and Power	470	(carbaryl bait)
Camas and Gooding	2,600	(carbaryl bait)

Acres of Federally Managed Land Treated for
Grasshoppers by County in Idaho in 2005

Gem	2,394	(diflubenzuron spray)

The other official complaints did not result in treatment by PPQ because:

Insects were on state or private land and not on federal land, or
Environmental concerns precluded treatments, or
Numbers of insects present did not justify treatment

Grasshopper populations on federally managed lands were generally light with only a few outbreaks. In areas where treatments were applied the spray was effective in reducing the populations after a few days.

The Mormon cricket outbreak in Owyhee County necessitated a drawn out treatment campaign utilizing aircraft and ground equipment to disperse 146,350 lbs of bait on BLM managed lands. Additionally PPQ sprayed 47,880 acres of BLM managed lands with diflubenzuron. Also, unknown parties distributed additional bait along roads and trails in areas where Mormon cricket numbers may not have been diminished by PPQ's treatments. In areas where treatments could be applied by air or ground the Mormon cricket populations were suppressed to levels that did not result in extensive crop loss or damage to natural resources.

SUMMARY OF ENVIRONMENTAL DECISIONMAKING

The Environmental Impact Statement which informs decisions on the Federal Rangeland Grasshopper Suppression Program in seventeen western states is available at:

http://www.aphis.usda.gov/ppd/es/gh.html

PPQ conducted scoping in November and December of 2004 and received eighty one (81) responses from private citizens, organizations, and governmental units. The responses expressed concern about the damage that grasshoppers and Mormon crickets would cause if they were not controlled and concern about potential adverse effects of insecticides. PPQ considered all the comments and prepared four environmental assessments, one for Mormon crickets and three for grasshoppers. The Environmental Assessments which informed decisions about the 2005 program in Idaho are available at:

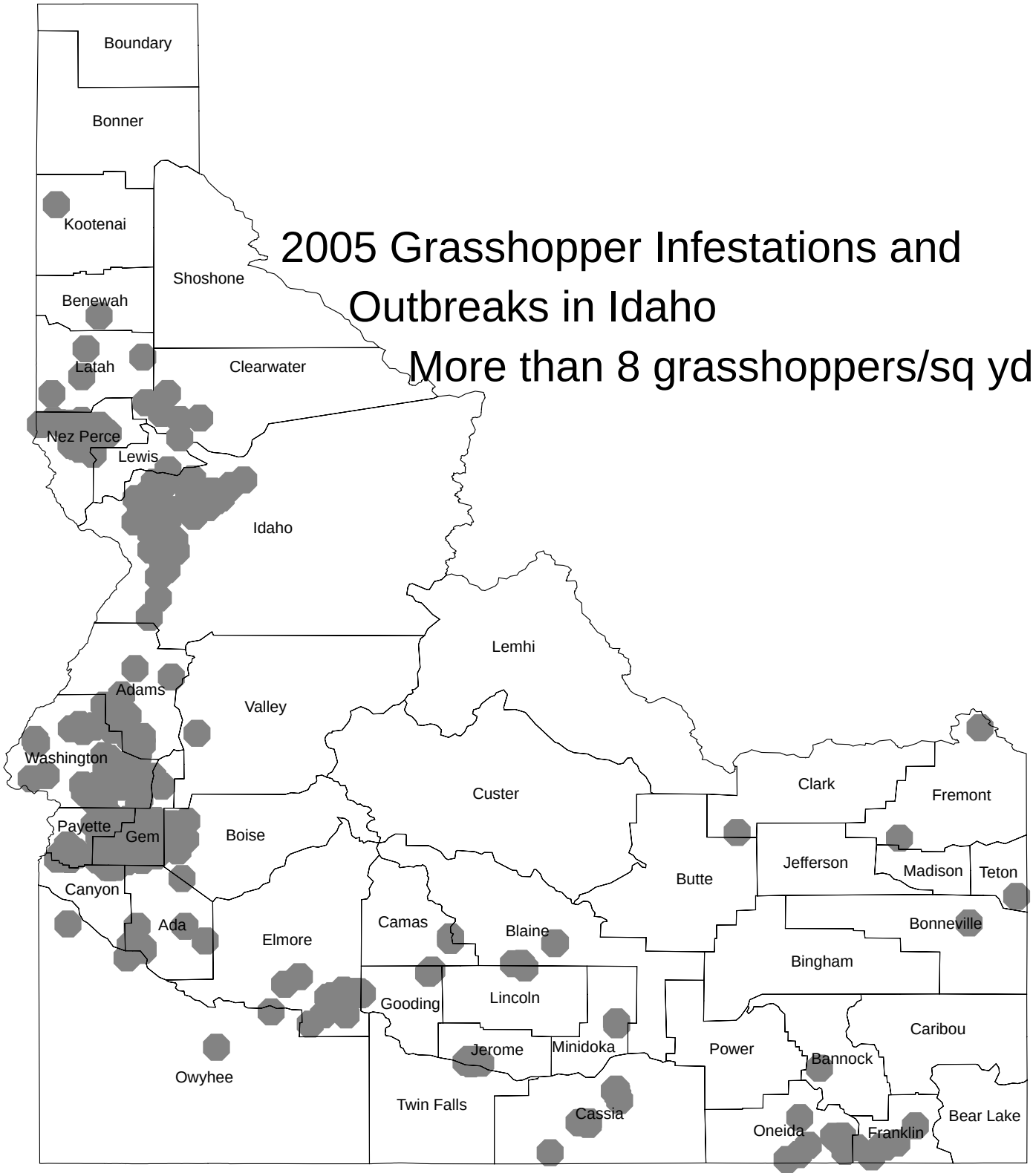
http://www.agri.state.id.us/Categories/PlantsInsects/GrasshopperMormonCricketControlProgram/ghprogramenvirodocs_pubs_reports.php

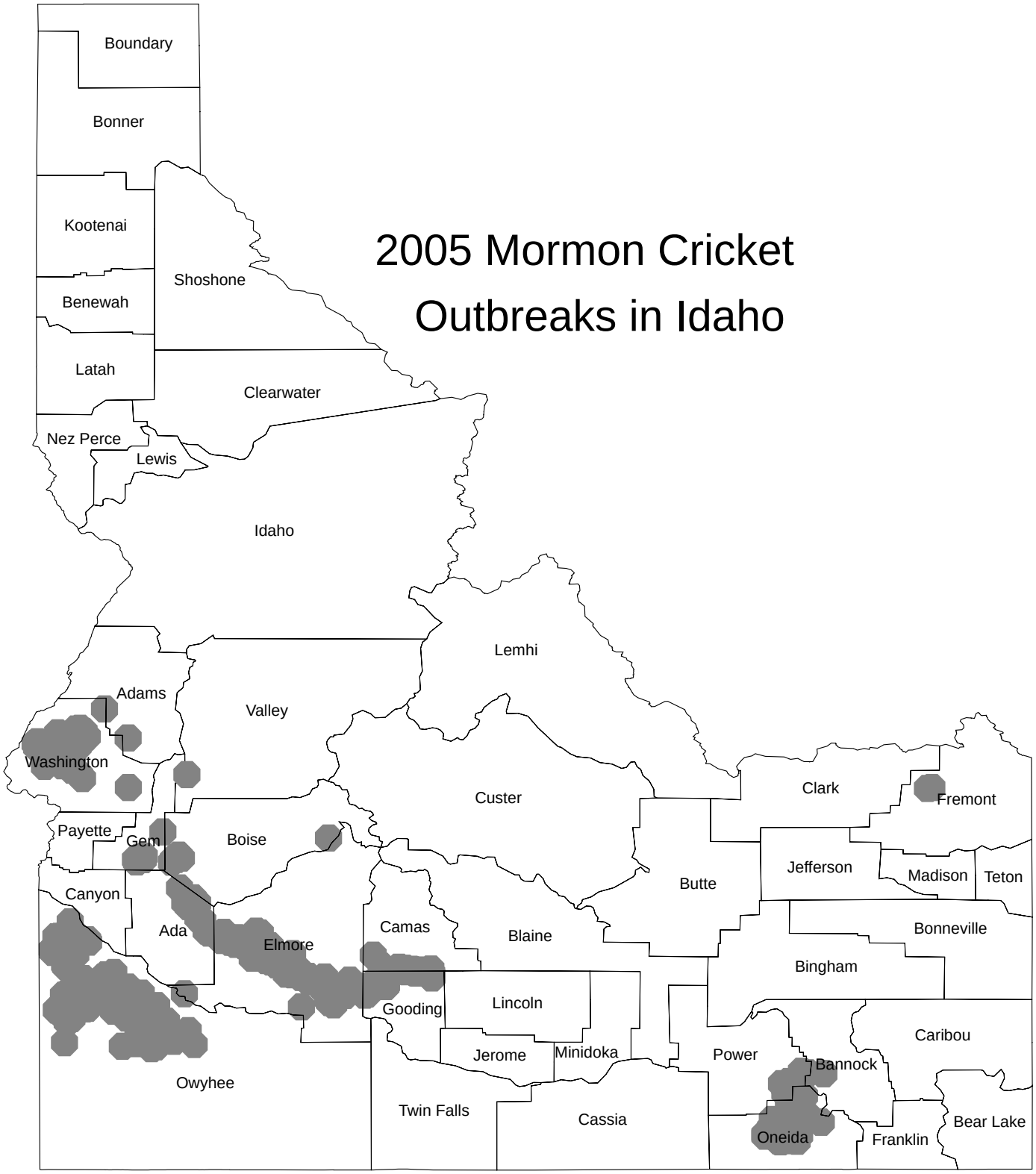
PPQ analyzed only carbaryl bait and diflubenzuron spray for the Mormon cricket program. In normal outbreaks, carbaryl bait can be very effective in suppressing Mormon crickets. Because Mormon crickets are flightless, travel significant distances on the ground from the places where they hatch to the places where they may damage crops or other resources, and move in large bands which can be easily detected by the general public as well as trained scouts; they can be intercepted with bait treatments applied by air or ground. However, the logistical problems associated with application of the bait at 10 lbs./acre preclude its exclusive use in very large outbreaks. Diflubenzuron spray would be applied by air with 0.75 oz of diflubenzuron in 30 oz.

water and oil carrier. Because lesser amounts of the spray are required for suppression, more acreage can be covered more quickly with spray than with bait. Carbaryl bait and diflubenzuron pose less risk to non-target insect species than some other insecticides.

Because grasshoppers can fly, may hatch in very close proximity to crops, and are not readily detected by many members of the public until they have reached maturity; PPQ analyzed malathion spray as well as carbaryl bait and diflubenzuron sprays for the grasshopper programs. Malathion is quicker acting than carbaryl bait or diflubenzuron and would have been applied at 6 oz/acre. However, malathion has a broad spectrum of insecticidal activity.

In response to stakeholder expressions of concern about exposure to pesticides, PPQ initiated a program which allows concerned parties to request federally managed rangeland near their homes be excluded from treatments for grasshoppers or Mormon crickets. There were no applicants for the program.


2005 Grasshopper Infestations and Outbreaks in Idaho
More than 8 grasshoppers/sq yd.
Boundary
Bonner
Kootenai
Shoshone
Benewah
Latah
Clearwater
Nez Perce
Lewis
Idaho
Lemhi
Adams
Valley
Washington
Custer
Clark
Fremont
Payette
Gem
Boise
Jefferson
Madison
Teton
Butte
Canyon
Ada
Elmore
Camas
Blaine
Bonneville
Bingham
Gooding
Lincoln
Caribou
Jerome
Minidoka
Power
Bannock
Owyhee
Twin Falls
Cassia
Oneida
Franklin
Bear Lake


2005 Mormon Cricket Outbreaks in Idaho
Boundary
Bonner
Kootenai
Shoshone
Benewah
Latah
Clearwater
Nez Perce
Lewis
Idaho
Lemhi
Adams
Valley
Washington
Custer
Clark
Fremont
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